

Drug Allergies and Reactions Program: A New Paradigm to Record Complete Information

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Background. Drug allergies are an important part of the patient record. Unlike active problems, medications, and laboratory values, allergies are seldom removed from the record and are not subject to rapid change.¹ The common method of listing drug allergies in the patient record lacks important information about the allergy or reaction: What reaction occurred? How certain is it that the reaction occurred? If a compound drug is recorded, to which component is the patient allergic? The literature shows that allergies and intolerances are not documented in 20 percent of medical records,^{2,3} and that specific types of reaction, which may be relevant to treatment decisions, are not documented in two thirds of patients with a documented allergy.⁴ If one goal is to use recorded drug allergies and intolerances to generate automatic alerts regarding potentially dangerous drug orders, the clinician or pharmacist must be able to provide accurate and detailed information.

System Description. We developed a system that addresses these concerns. The Drug Allergies and Reactions program, which has been in use at our hospital since May 1996, is part of the Center for Clinical Computing system.⁵ Characteristics of the program include:

The system contains one database of patient drug allergies and reactions. Nurses, physicians, and pharmacists view and update this database from the programs they use to document and retrieve patient information. The database is available in ambulatory care, inpatient, and home-care settings.

Drugs are identified at the ingredient level, if known by the provider. Drugs and ingredients are linked directly to the National Drug Data File from First Data Bank. Generic and brand names are included, as well as drug and allergen groups. The reason is that a patient may state, for example, that he or she is allergic to Percocet. If we take this on face value and document allergies to both components of Percocet, the system will alert clinicians every time an order for acetaminophen is written. This approach allows us to create a database for decision support alerts on allergies at the component level via an order entry system.

Reaction(s) to each drug or ingredient is recorded. After selection of a drug or component, the patient's reactions are selected from a list of common reactions that includes true allergies (anaphylaxis or urticaria) as well as intolerances (nausea) and uncertain reactions ("unknown childhood reaction"). If neces-

sary, reactions may be selected from a list of less common choices or may be entered as free text.

Standard and codified terminology is used to describe the drug and reactions. Standardization of terms provides clear identification of the reaction, as well as the ability to track and use the allergy data for reporting purposes.

Certainty Level (1-3) and additional information may be documented. Clinicians can enter a certainty level to communicate to other providers the likelihood that the reaction took place, and add further information as appropriate.

Results and Discussion. Before this system's implementation, allergies were recorded in 26 different locations in various places in their inpatient record and in 5 different computer profiles. In contrast, this program has provided one place for entry of drug allergies. They only need to be entered once, during the first encounter with the clinical system or at the point of discovery. After that, the allergies are merely verified.

Viewing the Drug Allergy and Reaction information, the clinician can easily identify the drug or particular component, the specific reaction(s), and any additional information or certainty level. The system capacity for automated allergy alerting is thus improved.

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References

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